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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/464,830	12/17/1999	KARL J. MOLNAR	8194-350	8144
20792	7590	07/26/2005	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			AHN, SAM K	
PO BOX 37428			ART UNIT	
RALEIGH, NC 27627			PAPER NUMBER	
			2637	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/464,830	MOLNAR, KARL J.	
	Examiner	Art Unit	
	Sam K. Ahn	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-19 and 22-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4-19 and 22-28 is/are allowed.
- 6) ☒ Claim(s) 29-33 is/are rejected.
- 7) ☒ Claim(s) 34-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/17/99 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/18/05 have been fully considered but they are not persuasive.

On page 17, the applicants argue that Cui in view of Golden do not teach the limitations recited in claims 29-33. The examiner respectfully disagrees.

Specifically, the applicants argue that Cui in view of Golden do not teach the limitation of "an interfering signal synchronization sequence finder", which the applicant appears to argue is a semi-blind joint demodulation (note page 18).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *semi-blind joint demodulation does not use an estimate of an interfering signal's synchronization sequence*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Thus, the examiner maintains the rejection as below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cui (cited previously) in view of Golden et al. USP 5,819,168 (Golden).

Regarding claim 29, Cui teaches a system (see Fig.5) for locating an interfering signal synchronization sequence in a received signal (R) that includes a desired signal having a desired signal synchronization sequence (Sd) and an interfering signal having the interfering signal synchronization sequence (Si), the system comprising: a demodulator (506) that is responsive to the received signal to generate an estimate of the desired signal and an estimate of the residual signal; and an interfering signal synchronization sequence finder (512) that is responsive to one the received signal and the estimate of the residual signal (received from the MUD Reference Correlator, 510, outputting information signal or received signal, and estimate of the interference signal (note col.7, lines 52-62 and col.8, lines 62-67). However, Cui does not explicitly teach a carrier-to-interference-and-noise ratio estimate generator wherein the interfering signal synchronization sequence finder based upon the estimate of the carrier-to-interference-and-noise ratio of the received signal, responds to one of the received signal and the estimate of the residual signal.

Golden teaches improving signal reception by generating and applying weights to the signal based on the ratio of the desired signal to noise and interference (note col.7, lines 42-45). Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Cui's MUD Reference Correlator to

calculate the carrier-to-interference-and-noise ratio of the received signal, as taught by Golden for the purpose of accurately receiving the desired signal in the presence of interfering signal (note col.1, lines 37-41).

Regarding claims 30 and 31, Cui in view of Golden teach all subject matter claimed, as applied to claim 29. Cui further teaches wherein the interfering signal synchronization sequence finder (512) is responsive to the received signal if the estimate of the carrier-to-interference-and-noise ratio of the received signal is less than a threshold (6dB), and is responsive to the estimate of the residual signal if the estimate of the carrier-to-interference-and-noise ratio of the received signal is greater than the threshold (note col.11, lines 19-27).

Regarding claim 32, Cui in view of Golden teach all subject matter claimed, as applied to claim 29. Cui further teaches wherein the demodulator (506) demodulates the received signal to generate an estimate of the desired signal (S_d), and further teaches that the signal received may be described in the equation (note col.6, line 9, wherein the received signal equals to the summation of the desired signal, residual signal and noise). Thus, one skilled in the art may analyze that the residual signal may be calculated by subtracting the estimate of the desired signal from the received signal to generate the estimate of a residual signal.

Regarding claim 33, Cui in view of Golden teach all subject matter claimed, as applied to claim 29. Cui further teaches an interfering channel response estimator (508) that is responsive to the found interfering signal synchronization sequence (the sequence is fed back and delivered to the estimator, note col.10, lines 28-31).

Allowable Subject Matter

3. Claims 1- 28 are allowed.
4. Claims 34-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
7/21/05

TEMESGHEN GHEBRETISSAE
PRIMARY EXAMINER
7/22/05
CON. 020